

REMARKS

Claims 1-10, 13, 15-18, and 23-38 have been withdrawn from consideration. Claims 11, 12, 14, 19-22 have been rejected. Claims 11 and 26 have been amended to recite that the core molecule has “a molecular weight of 400 or less.” Support for this amendment can be found in the specification at, *inter alia*, page 6, line 8, and page 13, lines 24-25.

No new matter is believed to have been added by these amendments; therefore, examination is requested on the claims as amended herewith.

Rejections under 35 USC § 102

In the Final Office Action, the rejection of Claim 11 as being anticipated by EP 0837084 to Bennett *et al.* was maintained. Specifically, the Office Action asserted that Bennett *et al.* discloses biodegradable, biocompatible branched polymers containing dioxane units that are optionally end-capped with isocyanate. The Office Action further contended that these isocyanate end-capped polymers are formed by the reaction of an isocyanate with a low molecular weight multifunctional core, and in this regard, refers to Example 9 of Bennett *et al.* Applicants respectfully traverse this rejection to the extent it applies to the amended claims.

Notably, the species with which the isocyanate is reacted in Example 9 of Bennett *et al.* is not a low molecular weight multifunctional core as recited in the amended claims, *i.e.*, 400 or less. In Example 9 of Bennett *et al.*, the isocyanate is reacted with a star copolymer of p-dioxanone and glycolide utilizing a pentaerythritol core (p. 4, ll. 24-25, describes the pentaerythritol as a “polyhydric alcohol initiator [that] is employed to provide a highly branched or star structure”). While this species is more correctly viewed as an oligomer, it has a molecular weight of approximately 950. Therefore, Claim 11 is distinguishable from Bennett *et al.* because it recites a core molecule having a molecular weight of 400 or less.

Rejections under 35 USC § 103

In the Final Office Action, the rejection of Claims 12, 14, and 19-22 as being unpatentable over Bennett *et al.* in view of Garber *et al.* was maintained. Applicants traverse this rejection to the extent it applies to the amended claims.

The Examples in Bennett *et al.* are limited to the use of p-dioxanone in the preparation of the star copolymers. The materials all contain repeating units of $-\text{[(C=O)-CH}_2\text{-O-CH}_2\text{-CH}_2\text{-O]}-$. The broader disclosure of Bennett *et al.* also describes the use of caprolactone in the preparation

of the star copolymers; however, this is not exemplified. Bennett *et al.* contains no disclosure or teaching whatsoever in respect of the core molecules disclosed and claimed in the instant application.

Although Bennett *et al.* discloses the reaction of the star copolymers with isocyanate so as to form an isocyanate end-capped polymers and the subsequent reaction of the isocyanate end-capped polymers with alkylene oxide polymers, Bennett *et al.* is silent as to the properties of the resulting functional oligomers. The Examiner states that a composition cannot be separated from its properties; however, in the instant case the claimed compositions are wholly different to those disclosed and taught in Bennett *et al.* As only p-dioxane derived prepolymers are exemplified in Bennett *et al.* and as there is no disclosure of the properties of the derived compositions, extrapolation to assume that such composition, prepared using the core molecules of the present invention, would be a flowable or injectable has not basis.

Garber *et al.* is directed to the preparation of polyurethane articles, such as films, coatings, castings, binders, and adhesives. Garber *et al.* is wholly silent on biocompatibility or biodegradability. The Examiner refers to Examples 17, 19, and 36 of Garber *et al.*, which disclose polymers formed from the reaction of pentaerythritol with diisocyanates. All of the polymers are formed in toxic organic solvents, solvents that would prejudice the subsequent application of the materials in bio environments. The Examiner states that the disclosure of the preferred embodiments does not constitute a teaching away from non-preferred embodiments. Applicants submit that, in this case, this view is entirely without foundation. Garber *et al.* broadly teaches the preparation of polyurethane compositions that yield polyurethane articles possessing extremely desirable color stability characteristics. The disclosure, whether in the form of preferred or non-preferred embodiments, bears no relevance to biodegradability and biocompatibility. Garber *et al.* contains no teaching or direction of the preparation of materials that are biodegradable and biocompatible. In fact, a problem that Garber *et al.* seeks to solve (col. 1, ll. 28-38) is to provide polyurethane compositions that are resistant to weathering, a solution to which teaches directly away (whether preferred or non-preferred) from the concept of biodegradability.

Furthermore, Garber *et al.* is silent with respect to the reaction of the disclosed polymers with linear, star dendrimer or hyperbranched soft segment forming functional oligomers.

Accordingly, the absence of direct teachings as to the properties of the functional oligomers of Garber *et al.* places an enormous burden on the skilled artisan. The only property disclosed in Bennett *et al.* is that the alkylene oxide side chains reduce cell adherence. That disclosure is silent with respect to the physical properties of the functional oligomers. Therefore, in seeking to provide materials as recited in the claims, there would have been no motivation or reason for the skilled artisan to combine the references and replace the star copolymers of Bennett *et al.* with the polymers of Garber *et al.*, particularly since the polymers disclosed in Garber *et al.* are not biocompatible. There being no articulable reason one would combine Bennett *et al.* with Garber *et al.* in order to arrive at the present claims, the rejection under 35 U.S.C. § 103 should be withdrawn.

CONCLUSION

In light of the foregoing amendments and remarks, it is believed that the rejections presented in the Final Office Action have been overcome. Accordingly, Applicants respectfully submit that the Application is allowable and seek notification of same. Further, in light of the allowance of the presently examined claims, Applicants seek rejoinder of at least withdrawn claims 13, 15-18, 23-25, 29, 30, and 33-38.

Payment in the amount of \$1,920.00 is enclosed herewith. This fee includes the \$810.00 fee under 37 C.F.R. § 1.17(e) for the Request for Continued Examination and the \$1,110.00 fee under 37 C.F.R. § 1.17(a)(3) for the Three-Month Extension of Time. No further fees are believed to be due; however, the Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,
BALLARD SPAHR ANDREWS &
INGERSOLL, LLP

/Christopher L. Curfman/

Christopher L. Curfman, JD, PhD
Registration No. 52,787

BALLARD SPAHR ANDREWS & INGERSOLL, LLP
Customer Number 23859
(678) 420-9300 (Phone)
(678) 420-9301 (Facsimile)

ATTORNEY DOCKET NO. 23292.0003U1
APPLICATION NO. 10/520,414

CERTIFICATE OF EFS-WEB TRANSMISSION UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence -- including any items indicated as attached, enclosed, or included -- is being transmitted by EFS-WEB on the date indicated below.

/Christopher L. Curfman/

November 12, 2008

Christopher L. Curfman

Date